

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/02303

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B01D45/08 B01D45/16 B01D50/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B01D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 195 464 A (SHELL) 24 September 1986 (1986-09-24) cited in the application page 5, line 16 -page 8, line 15	1,3, 5-11,18
Y A	---	12 13,15,17
Y	WO 00 74815 A (SWANBORN) 14 December 2000 (2000-12-14) cited in the application page 7, line 18 -page 10, line 32	12
X A	US 6 251 168 B1 (BIRMINGHAM ET AL) 26 June 2001 (2001-06-26) column 4, line 45 -column 6, line 12	1-3,5,6, 8-10,12 13,15-18
X	US 3 010 537 A (BAKER ET AL) 28 November 1961 (1961-11-28) column 1, line 70 -column 5, line 17	1
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

24 June 2003

Date of mailing of the international search report

01/07/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5618 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Doolan, G

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DD 257 826 A (VEB) 29 June 1988 (1988-06-29) the whole document -----	1

INTERNATIONAL SEARCH REPORT
Information on patent family members

International Application No
PCT/EP 03/02303

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 195464	A	24-09-1986	AU 577927 B2	06-10-1988
			AU 5421286 A	16-10-1986
			CA 1286233 C	16-07-1991
			DE 3662839 D1	24-05-1989
			DK 95986 A	06-09-1986
			EG 17664 A	30-03-1991
			EP 0195464 A1	24-09-1986
			JP 1839666 C	25-04-1994
			JP 5054365 B	12-08-1993
			JP 61204017 A	10-09-1986
			NO 860784 A ,B,	08-09-1986
			NZ 215346 A	31-03-1987
			US 4767424 A	30-08-1988
WO 0074815	A	14-12-2000	NL 1012245 C2	06-12-2000
			AU 5431300 A	28-12-2000
			DE 20023079 U1	13-03-2003
			EP 1187667 A2	20-03-2002
			WO 0074815 A2	14-12-2000
			NO 20015925 A	04-02-2002
US 6251168	B1	26-06-2001	CA 2313903 A1	23-01-2001
US 3010537	A	28-11-1961	NONE	
DD 257826	A	29-06-1988	DD 257826 A1	29-06-1988